

## **REMARKS**

### **The §101 Rejections**

The Examiner's further explanation of his position regarding the §101 rejection is appreciated. Claim 31 has been amended to add the language "when executed by a processor" as suggested by the Examiner. It is believed that this resolves the §101 rejection.

### **The Substantive Rejections**

The various substantive rejections of each of the independent claims have been based upon either Japanese Patent No. 09-62729 (hereinafter JP'729) or JP'729 in view of Ruffo et al. U.S. Patent Publication No. 2001/0032166 for those claims dealing with confirmation of data over the Internet.

Furthermore, the dependent claims have been rejected upon JP'729 in view of Ruffo or European Patent 1,112,828 or JP'873.

It is noted that two of the four references upon which the Examiner has relied, namely Ruffo et al. and the European patent are not prior art to the present application. As is shown below, Ruffo et al. is not prior art because Applicant has sworn behind it in the attached RULE 131 DECLARATION. The European patent is not prior art simply because it was published after the filing date of the present application and thus there is no basis for citing it against the present application.

### **Applicants Have Sworn Behind Ruffo et al.**

The rejections in paragraphs 11, 12 and 13 of the Office Action, which require the use of the Ruffo et al. reference, are the most easily addressed, and thus will be dealt with first. As is shown in the attached RULE 131 DECLARATION, the Ruffo et al. reference is not properly citable as a reference against the present application, because the present invention was reduced to practice prior to the effective filing date of the Ruffo et al. application. The present application was filed on December 13, 2000. The Ruffo et al. application did not publish until October 18, 2001. Ruffo et al. was filed on December 28, 2000, and it claims the benefit of provisional application no. 60/192,552 filed on March 28, 2000. Thus, the earliest possible effective date of any of the Ruffo et al. disclosure is March 28, 2000.

The attached RULE 131 DECLARATION shows that the present application was reduced to practice prior to March 28, 2000, and thus Ruffo et al. is not an effective reference against the present application.

Thus, Applicant will turn its attention to the rejections based upon the JP'729 reference.

### **The JP'729 Reference**

Before addressing the specific features of the pending claims which are not taught by the JP'729 reference, it is helpful to review in general the subject of the present invention and the very different subject of the JP'729 reference.

The present application is directed to apparatus and methods for automatic quoting of unique previously non-existent custom manufactured parts from a variety of manufacturing processes and materials. The customer who desires a quotation for the manufacture of the part, provides a CAD file describing the part's geometry, and the computer analyzes the CAD file and automatically calculates and provides to the customer a firm price quotation for the custom manufactured part. The customer can then place a purchase order based upon that firm price quotation. Optionally, the customer may be permitted to select from one of a plurality of available manufacturing processes and/or to select one of a plurality of available materials from which the part can be manufactured, and/or to select one of a plurality of available surface finishes to be used on the part, and/or to select a quantity of the part to be manufactured. Thus, barring unusual circumstances which might require intervention by a human employee of the proprietor of the automated quoting process, the potential customer simply inputs his or her CAD file, optionally selects from available processes, materials, finishes and quantities, and is automatically provided with a firm binding price quotation.

This is in sharp contrast to the JP'729 system which has absolutely nothing to do with automated quotation of binding prices based upon customer supplied CAD files for custom manufactured parts.

First, it is noted that Applicant is providing herewith as Exhibit A an English language translation of the entire JP'729 reference. The following discussion will

reference a number of specific portions of the translation either by page number of the translation, paragraph number of the translation or figure number.

The JP'729 system is one which is used by a design engineer to estimate the cost for manufacture of an article from sheet metal. See paragraph [0001] of JP'729 which reads:

“[0001] The present invention is related to a designing support system, especially for sheet metal design, promoting low-cost-design by showing the production costs of the design object to the designer of the sheet metal design.”

Furthermore, even the design engineer does not input a CAD file, but rather the design engineer uses a keyboard or a mouse (input unit 110) to select from a feature generating menu various features, such as the size of the metal article, and the various features thereof such as punched holes, bending of angles and the like. From this description of the various features of the article which are input by the design engineer, the system of JP'729 then generates the CAD data or CAD file 141, and then the system further manipulates that CAD file to generate additional files which are descriptive of various portions of the manufacturing process. With regard to the point that the design engineer of JP'729 only inputs individual features, not a CAD file, see paragraph [0039] which reads:

“[0039] By using input unit 110, the user selects from the feature generating actuating menu the kind of feature to be generated, and adds further items, defined beforehand according to the kind of feature. Inputted items

are “size”, “parent feature assignment” and “tab control specification”.

Further, in paragraph [0042] some of the further individual inputs by the design engineer are described:

“[0042] In step 602 the input process of feature size is performed. For example, for the generating actuation of a rectangular orientation plate, “board thickness”, “length”, and “width” are inputted, and “bolt size” is inputted in generating actuation of a bolt hole. There are items to be chosen from the size menu, displayed on display 120 like the “bolt size” of the hold generating actuation for bolts, and real number values to be inputted like “length” and “width” of rectangle orientation plate generating actuation.”

Paragraph [0043] goes on to describe the inputting of parent feature designations.

Paragraph [0044] goes on to describe the inputting of location designations.

This is all schematically illustrated in Fig. 6.

Also see paragraph [0062] which reads:

“[0062] Outline shape management section 136 administrates outline shape model 143 according to data structure as in figure 10, and expresses the shape of components. Outline shape generating section 135 reflects, by using outline shape management section 136, changes in shape according to the actuation of a designer, generating or deleting shape elements on data structure as shown in figure 10, correcting geometric data currently held for each shape element, or correcting network connection relations.”

Then based upon the use of libraries of costs of various features, the program provides to the design engineer an estimate of the manufacturing cost of an article having the various features which the design engineer has individually input into the system. This allows the design engineer to explore the estimated cost of various modifications to the design in an efficient manner.

Thus, JP'729 is not used by customers who are wanting to purchase a part at all, but instead it is used by a design engineer who is trying to minimize the cost of manufacturing a part. Thus there is no customer CAD file input into the system. There is not even a CAD file input by the design engineer, but rather he selects various features of the sheet metal component, and from the various feature descriptions which the design engineer selects, the program itself generates a CAD file internally. Furthermore, the prices that are generated are not quotations of any kind much less binding quotations. They are simply estimates for use by the design engineer, who presumably is trying to design the most efficiently and cheaply manufacturable product.

Turning now to the several independent claims of the present application, the many deficiencies in JP'729 as an anticipating reference for those claims will be pointed out.

### **Independent Claim 1**

Independent claim 1 reads as follows:

1. A method of providing a firm price quotation for a custom manufactured part, comprising:
  - (a) permitting a client to access a server computer system from a client computer over a global communication network;
  - (b) uploading from the client computer to the server computer system a computer aided design (CAD) file describing the custom manufactured part;
  - (c) analyzing the CAD file on the server computer system to determine one or more manufacturing criteria for the custom manufactured part;
  - (d) calculating in the server computer system a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria; and
  - (e) transmitting the price quotation to the client computer over the global communication network.

The Examiner's rejection of claim 1 is found in paragraph 11 of the Office Action where claim 1 was rejected under 35 U.S.C. §103 based upon JP'729 in view of Ruffo et al. As previously noted, the Ruffo et al. reference is not applicable in view of the RULE 131 DECLARATION filed herewith. The JP'729 reference taken alone, is missing at least the following elements of claim 1 and thus for these reasons neither anticipates nor makes obvious the invention of claim 1:

1. Regarding step (a) the computer system of JP'729 is not accessed by a client, but instead is simply accessed by a design engineer who is presumably an employee of the owner of the system. Furthermore, the computer system of JP'729 is not accessed by another computer. Finally, the design engineer's access is not over any kind of network, much less over a global communication network.

2. Regarding step (b), no CAD file is uploaded from a client computer or anywhere else to the JP'729 computer system. Instead, the design engineer simply uses the JP'729 computer system to individually input various design features and the system then compiles an internal CAD file describing the part.
3. Regarding step (d), the JP'729 system does not calculate "a firm price quotation" but instead merely estimates the cost of manufacture. There is a tremendous distinction between "a firm price quotation" by which the quoting party will be bound in a commercial transaction, as contrasted to the JP'729 system which merely provides estimates which can be used on a comparative basis to optimize a design process.
4. With regard to step (e) of claim 1, there is no transmission of a price quotation or estimate back to a client computer over any kind of network much less a global communication network. Instead, the JP'729 system merely displays its cost estimates on display screen 120 to the design engineer who is using the system to aid in his design work. part.

In sum, the JP'729 system has absolutely nothing to do with providing firm price quotations to customers for custom manufactured parts without human intervention, based upon the customer's CAD file which is uploaded to the computer. Instead, it is merely a design aid used by a design engineer who is sitting at a computer system, manually inputting various design features, which are



then used internally within the system to create a CAD file from which an estimate is displayed to the design engineer to aid in his design process.

Furthermore, it is noted that even if the Ruffo et al. reference had been applicable, which it is not, or if the Examiner were to find another reference similar to Ruffo which simply generally suggests the use of the Internet, the same would not supply or suggest the various elements missing from the JP'729 reference as listed above.

### **Independent Claim 31**

Independent claim 31, as recently amended, reads as follows:

31. A program stored in a computer readable media for generating binding price quotations for custom manufactured parts comprising:  
a CAD file analysis program portion for receiving a CAD file and analyzing the CAD file to determine one or more manufacturing criteria corresponding to each custom manufactured part;  
and  
a price generation program portion for generating a binding price quotation based upon the one or more manufacturing criteria when executed by a processor.

The Examiner's rejection of claim 31 is found in paragraph 5 of the Office Action and was a §102 rejection based upon JP'729.

The JP'729 reference has at least the following deficiencies as an anticipating reference to claim 31:

1. The JP'729 system does not receive a CAD file, but instead receives individual inputs from the design engineer via the mouse pad or keyboard input unit 110 through which the engineer inputs various data and selects various features from a menu, and those items of data are then converted into a CAD file 141 internally within the system.
2. The price generation program of the JP'729 system does not generate "a binding price quotation" but instead only generates an estimate of cost.

### **Independent Claim 52**

Independent claim 52 reads as follows:

52. A method of providing a firm price quotation for a custom manufactured part, comprising:
- (a) loading onto a computer system a computer aided design (CAD) file describing the custom manufactured part;
  - (b) analyzing the CAD file on the computer system without human intervention to determine one or more manufacturing criteria for the custom manufactured part;
  - (c) calculating in the computer system without human intervention a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria; and
  - (d) displaying the price quotation.

Claim 52 was also rejected in paragraph 5 of the Office Action under 35 U.S.C. §102 based upon JP'729. The JP'729 reference has at least the following shortcomings as an anticipating reference for the invention of claim 52:

1. Regarding step (a), a CAD file describing a custom manufactured part is not loaded onto the computer system of JP'729, but instead only individual features are input manually, and a CAD file is compiled internally within the JP'729 system.
2. Regarding steps (c) and (d) of claim 52, the JP'729 system does not calculate "a firm price quotation" but rather only calculates an estimate of manufacturing costs.

### **Independent Claim 70**

Independent claim 70 reads as follows:

70: A method of providing a firm price quotation for a custom manufactured part, comprising:  
(a) permitting a client to access a server computer from a client computer over a global communication network;  
(b) loading onto one of the client computer and the server computer a computer aided design (CAD) file describing the custom manufactured part;  
(c) analyzing the CAD file on said one computer to determine one or more manufacturing criteria for the custom manufactured part;  
(d) calculating in the server computer a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria;  
and

- (e) transmitting the price quotation to the client computer over the global communication network.

The Examiner's rejection of claim 70 is found at paragraph 11 of the Office Action and is a rejection under 35 U.S.C. §103 based upon JP'729 in view of Ruffo. As previously noted, Ruffo is not properly citable against the present application in view of the attached RULE 131 DECLARATION.

The JP'729 reference has at least the following shortcomings as compared to the invention of claim 70:

1. Regarding step (a), JP'729 does not permit a client to access its computer at all, as noted the JP'729 system is instead used by a design engineer working for the proprietor of the program. Furthermore, the JP'729 computer is not accessed from another computer at all. Finally, the JP'729 computer is not accessed over a global communication network.
2. Regarding step (b), the JP'729 reference does not involve the loading of a CAD file describing the custom manufactured part onto the computer system of JP'729. Instead only individual features are input and a CAD file is compiled internally by the JP'729 system.
3. Regarding step (d), the JP'729 system does not calculate "a firm price quotation", but instead only calculates an estimate of manufacturing costs.

4. Finally, regarding step (e), the JP'729 system does not transmit its cost estimate to another computer or over any network, but instead only displays its estimate on the display screen 120.

### **Independent Claim 71**

Independent claim 71 reads as follows:

71. A method of providing a firm price quotation for a custom manufactured part, comprising:

- (a) permitting a client to access a server computer system from a client computer over a global communication network;
- (b) uploading from the client computer to the server computer system a computer aided design (CAD) file describing the custom manufactured part;
- (c) analyzing the CAD file on the server computer system to determine one or more manufacturing criteria for the custom manufactured part; and
- (d) calculating in the server computer system a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria.

The Examiner's rejection of claim 71 is also found at paragraph 11 of the Office Action and is one under 35 U.S.C. §103 based upon JP'729 in view of Ruffo. As noted, Ruffo is no longer properly citable against the present application. The JP'729 has at least the following shortcomings as compared to the invention of claim 71:

1. Regarding step (a), JP'729 does not permit a client to access its computer at all, as noted the JP'729 system is instead used by a design engineer working for the proprietor of the program. Furthermore, the JP'729 computer is not accessed from another computer at all. Finally, the JP'729 computer is not accessed over a global communication network.
2. Regarding step (b), the JP'729 system does not load a CAD file onto the JP'729 computer system, much less upload such a file from a client computer.
3. Regarding step (d), the JP'729 system does not calculate "a firm price quotation", but instead only calculates an estimate of manufacturing costs.

### **Independent Claim 72**

Independent claim 72 reads as follows:

72. A method of providing a firm price quotation for a custom manufactured part, comprising:  
(a) loading onto a computer a computer aided design (CAD) file describing the custom manufactured part;  
(b) analyzing the CAD file on the computer to determine one or more manufacturing criteria for the custom manufactured part; and  
(c) calculating a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria.

The Examiner's rejection of claim 72 is found at paragraph 5 of the Office Action and is a rejection under 35 U.S.C. §102 based upon JP'729. The JP'729 has at least the following shortcomings as compared to the invention of claim 72:

1. Regarding step (a), the JP'729 system does not load a CAD file onto its computer system, but instead only inputs individual features which are then internally compiled into a CAD file.
2. Regarding step (c), the JP'729 system does not calculate "a firm price quotation", but instead only calculates an estimate of manufacturing costs.

### **Independent Claim 73**

Independent claim 73 reads as follows:

73. A method of providing a firm price quotation for a custom manufactured part to be manufactured by injection molding of thermoplastic material, comprising:

- (a) permitting a client to access a server computer system from a client computer over a global communication network;
- (b) uploading from the client computer to the server computer system a computer aided design (CAD) file describing the custom manufactured part;
- (c) analyzing the CAD file on the server computer system to determine one or more manufacturing criteria for the custom manufactured part; and
- (d) calculating a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria, said quotation being

based upon both tooling pricing and molded part pricing.

The Examiner's rejection of claim 73 is found at paragraph 11 of the Office Action and is a rejection under 35 U.S.C. §103 based upon JP'729 in view of Ruffo. As previously noted, Ruffo is no longer properly citable against the present application. The JP'729 reference has at least the following shortcomings as compared to the invention of claim 73:

1. Regarding step (a), the JP'729 system does not permit client access at all, but instead is only accessed by a design engineer working for the proprietor of the program. Further, even that design engineer does not access the JP'729 computer system from another computer system or over a global communication network.
2. Regarding step (b), the JP'729 system does not upload a CAD file from another computer to the JP'729 computer system, but instead only individual features are manually input by the design engineer, and data regarding those features is then internally compiled into a CAD file.
3. Regarding step (d), the JP'729 system does not calculate "a firm price quotation", but instead only calculates a price estimate. Furthermore, there is nothing in the JP'729 system suggesting that even its price estimate would be "based upon both tooling pricing and molded part pricing", as JP'729 has nothing to do with tooling for molded parts or the making of molded parts.



Thus with reference to all of the independent claims of the present application, the JP'729 falls far short of either anticipating or making obvious the invention of those claims. Thus each of those independent claims, and all claims dependent therefrom should be allowed over the JP'729 reference.

Although the dependent claims should be allowed for all the reasons given above for the independent claims, in the interest of a complete response Applicant will address the various comments made by the Examiner with regard to the dependent claims.

In general, and with the utmost respect, Applicant points out that in the following discussion of the Examiner's rejection of the various dependent claims it will be apparent that almost without exception the Examiner has not pointed to any specific teaching of JP'729 which specifically discusses any features of the dependent claims. The Examiner has only parroted the language of the claim and then stated that the same was shown in JP'729, typically making reference either to the English language abstract or to one or all of the figures, or in some instances to paragraph [0087]. Again, with respect, this is not an appropriate basis of rejection of the claims. When the Examiner closely reads and understands the enclosed English language translation of the JP'729 reference it is believed he will agree that JP'729 is simply irrelevant to the present application and falls far short of suggesting even the broadest independent claims of the present invention, much less the many details found in the dependent claims.

For the purpose of illustration, Applicant will specifically respond to the Examiner's comments on the various claims dependent from independent claim 1, which comments begin near the bottom of page 17 of the Office Action. This will not be repeated for the claims dependent from the other independent claims, because the subject matter of those various dependent claims tends to be redundant of that discussed with regard to the dependent claims from claim 1. It will be understood, however, that Applicant's comments regarding the claims dependent from claim 1 are equally applicable to the analogous claims dependent from the other independent claims.

### Claim 2

Claim 2 requires that step (b) be performed substantially instantaneously with a preprogrammed pricing formula. The Examiner refers to "the cost estimate module (1310) of JP'729". What the Examiner has overlooked, however, is that the JP'729 system does not calculate its cost estimate through the use of a preprogrammed pricing formula, but instead utilizes a library of cost data from which it looks up the individual cost of various features of the design. See the following discussion at paragraphs [0108] and [0109] of the attached translation of JP'729:

"[0108] In cost estimation section 1310, from cost factors, requested from cost factor generating section 139 and reference cost data 148, the cost estimation is performed. With regard to cost estimation approaches,

various approaches can be considered, however, it can be obtained simply by adding reference cost data, which are set up for each cost factor.

[0109] For example, if in reference cost data 148 data such as raw material reference cost data as shown in figure 23(a), expanded processing reference cost data as shown in figure 23(b), bending processing reference cost data as shown in figure 23(c), etc., are stored, the costs of components can be obtained by requesting the costs corresponding to each cost factor and adding them. As raw-material reference cost data, the board thickness and the costs per unit area, corresponding to each class of board thickness, as shown in figure 23(a), are stored. As expanded processing reference cost data, the punch mold class number and the costs per punch, corresponding to each punch mold class number, as shown in figure 23(b), are stored. As bending processing reference cost data, the length of the bending line, the bending angle and the corresponding costs per bending, as shown in figure 23(c), are stored. The estimated cost value is displayed by display processing section 132 on display 120."

### Claims 3-6

Claim 3 requires that the pricing formula be of the form "Price =  $a*V+b*H+c$ ", when a, b and c are preprogrammed constants, where V is the volume of the part, and where H is a vertical dimension of the part in a selected orientation.

Claims 4-6 go on to further refine the pricing formula.

The Examiner has provided no prior art basis for his rejection of these claims but instead takes the wholly unsupported position that it would have been obvious to a person of ordinary skill in the art to utilize "any formula" to calculate the

manufacturing cost because Applicant has not disclosed that the applicant's formula provides an advantage, is used for a particular purpose, or solves a stated problem."

The Examiner's statement could not be further from the truth. Applicant has set forth in great detail the advantage, the particular purpose, and the stated problem which is solved by this specific formula.

Namely, the present invention and the particular formula set forth in claim 3, provide a system which is suitable for calculating "a firm price quotation" as is clearly required in claim 1, and provides a means for doing so in a way in which the proprietor of the program can commit to commercially binding transactions on a profitable basis without resort to detailed analysis of the individual features of each part as has historically been required. See page 29 line 19 through page 30 line 2 of the application which states the following:

"The value of the pricing formula of the structure set forth in Equation 1 is that we have discovered that reasonable prices can be accurately determined in a reliably profitable manner by using a formula of the structure set forth, wherein the variables correspond to the volume of the parts being constructed and the vertical height dimension of the parts as a set when oriented in the most efficient fashion."

#### Claim 7

Claim 7 requires “prior to step (b), permitting the client to select one of a plurality of available manufacturing processes”, and then calculating the price quotation based upon the selected manufacturing process.

Near the bottom of page 18 of the Office Action the Examiner has explained his rejection of claim 7 as being based upon the Ruffo et al. reference, which is no longer applicable.

#### **Claims 8-12 and 14-15**

Claim 8 requires that the manufacturing process be an additive manufacturing process, and claims 9-11 further define that additive manufacturing process. Claim 12 requires that the manufacturing process be a formative manufacturing process. With regard to claims 14 and 15, claim 14 further defines the manufacturing process as including the molding of parts and further defines the preprogrammed pricing formula as including a pattern part pricing formula, a tooling pricing formula, and a molded part pricing formula. Claim 15 further specifies that the manufacturing process includes injection molding of parts from thermoplastic material including molds, and requires that the pricing formula include “a tooling pricing formula and a molded part pricing formula.”

The Examiner has cited European Patent 1,112,828 as allegedly teaching these various processes.

With respect, the Examiner has made an error in citing the European patent, which is not prior art to the present application. The present application was filed

on December 13, 2000. European Patent Application 1,112,828 was not published until July 4, 2001.

### **Claims 13 and 16**

Claims 13 and 16 require that “the one or more manufacturing criteria includes volume of the part”. The Examiner’s rejection of claims 13 and 16 is found at the top of page 19 of the Office Action. The Examiner simply refers to the figures of JP’729 and makes the statement “bigger the volume, more expensive inherently”.

The Examiner’s reliance on JP’729 in this regard is completely unsupported. JP’729 deals with costs resulting from bending sheet metal and punching holes in it. The costs set forth in JP’729 have absolutely nothing to do with the volume of the part.

### **Claims 17-20**

Claims 17 and 19 further requires that the one or more manufacturing criteria include “the geometric extent of the part along multiple axes”. Claims 18 and 20 add the “surface area” of the part. Those claims are allowable for the same reasons as the parent claims from which they depend.

### **Claim 21**

Claim 21 requires that prior to step (d) one of a plurality of available materials is selected, and then requires in step (d) that the calculation of price quotation includes calculating the price quotation for the selected material.

At page 19 of the Office Action the Examiner addresses claim 21 by reference to paragraph [0087] of JP'729.

That paragraph of JP'729 as set forth in the attached English language translation provided by Applicant, reads as follows:

“[0087] In step 1703, the cost factor from outline shape model 143, concerning the expanded shape of components generated in step 1701, is requested. The cost factor requested in step 1703 is data of the raw-material dimension, data of the nibbling processing part, for which an NC turret punch press is used, etc. Stock related data are the dimension of raw-material, die length, width, value of board thickness, etc., and are obtained by simply requesting the minimum rectangular solid being an epicyst (outer layer) of the expanded shape configuration of components. Furthermore, even more accurate data with regard to the dimension of raw-material can be obtained by comparing the data about the dimension of purchased raw-material with the dimension of the (outer layer) minimum rectangular solid. Also, a direct approach for obtaining the thickness of the sheet from feature model 142, can be achieved.”

A careful reading of paragraph [0087] shows that it says absolutely nothing about selecting one of a plurality of available materials or including a material type in the price quotation.

## **Claim 22**

Similarly to claim 21, claim 22 requires that the client be allowed to select from a plurality of available surface finishes and that then the manufacturing criteria include the surface finish and the price quotation is dependent upon the selected surface finish. Again, a careful reading of paragraph [0087] referred to by the Examiner shows that it makes absolutely no reference to surface finish.

### **Claim 23**

Claim 23 further requires that the client be permitted to purchase the custom manufactured online based upon the binding price quotation provided in claim 1. In that regard the Examiner has near the top of page 20 of the Office Action, referred to the teachings of Ruffo. But as previously noted, Ruffo is no longer properly citable against the present application.

### **Claim 24**

Claim 24 requires that the client be permitted to select a quantity of the part greater than one, and then requires that in step (d) the calculating of the price quotation involve a quantity price per unit that is less than the price for a single unit.

Near the middle of page 20 of the Office Action, in discussing claim 24, the Examiner has merely referred to “Supra paragraph of JP’729”, presumably referring to paragraph [0087] of JP’729. But again, a careful reading of paragraph



[0087] shows that it makes absolutely no mention of the quantity of parts being manufactured.

### Claims 25-26 and 28

Claim 25 further requires some very specific steps wherein the method is a method for providing a firm price quotation “for a build set including a plurality of custom manufactured parts”. It goes on to require the steps of “determining a platform area required by each part of the build set and determining a total platform area required by the build set” and then “comparing the total platform area required by the build set to an available platform area of a manufacturing machine to determine whether the entire build set will fit on the platform.”

Then “if the entire build set will not fit on the platform, dividing the build set into a plurality of subsets small enough for each subset to fit on the platform”. Finally, step (d) includes calculating a firm price quotation for each subset, and summing the subset price quotations to provide a firm price quotation for the entire build set.”

Claims 26 and 28 further refine this concept of a firm price quotation for a build set.

With regard to claims 25-26 and 28, the Examiner has rejected the same based upon JP’729 and Ruffo and further in view of JP’873. This is found in paragraph 13 of the Office Action near the bottom of page 24.

The Examiner acknowledges that JP'729 does not disclose anything about the build set concept. The Examiner then goes on to cite JP'783 as allegedly teaching all of these details regarding build set grouping etc. The Examiner makes absolutely no specific discussion of JP'873 but merely refers to the English language abstract and figures.

The Examiner's reliance on JP'873 is completely misplaced. The JP'873 reference merely provides a method for calculating the volume of a component defined in a CAD file. That volume calculation is apparently made by breaking the three-dimensional shape open to individual pixels which are then projected onto a two-dimensional plane and then added up to determine the volume of the component. But that has absolutely nothing to do with build sets of multiple components or of determining platform areas required by each part of the build set and total platform area required by the build set. The platform areas required by each part and by the total build set are not directly related to the volume of those parts but instead are related to the footprint of those parts.

With respect, the JP'873 patent is simply irrelevant to the present invention.

### **Claim 27**

The Examiner's rejection of claim 27 is found in paragraph 12 of the Office Action and is a rejection under 35 U.S.C. §103 based upon JP'729 in view of Ruffo et al. and EP 1,112,828.

As previously noted neither the Ruffo et al. nor the European patent are properly citable against the present application. The Examiner appears to be relying upon the European patent for the specific teaching of claim 27, and since the European patent is not applicable, claim 27 should be allowed for this further reason.

### **Claims 29-30**

Claim 29 requires that the manufacturing criteria “includes identification of three-dimensional geometric features relevant to a difficulty of the manufacturing process”, and claim 30 requires that those three-dimensional geometric features “include at least one feature selected from the group consisting of parting lines, undercuts, pockets, protrusions, wall thickness, surface features and solid features”.

Claims 29 and 30 are allowable for the same reasons as the parent claims from which they depend.

### **Conclusion**

In summary, it is believed that the arguments set forth above are sound, and accordingly reconsideration of the application is requested along with an early indication of the allowance of claims 1-73.

Respectfully submitted,



Lucian Wayne Beavers

Lucian Wayne Beavers  
Registration No. 28,183  
WADDEY & PATTERSON  
A Professional Corporation  
Customer No. 23456

ATTORNEY FOR APPLICANT

This attorney is located at our Nashville, Tennessee office and can be contacted directly at:

Lucian Wayne Beavers  
Waddey & Patterson  
414 Union Street, Suite 2020  
Bank of America Plaza  
Nashville, TN 37219  
(615) 242-2400

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